

PHENIX WEEKLY PLANNING



June 12, 2014
Don Lynch

- Run 14 Continues
- No scheduled maintenance this week
 - Next maintenance access day 6/16/14?
- MPC-Ex Planning meeting yesterday
- BNL Science review of sPHENIX
- Plan for 2014 Shutdown
- Tech Support for Run 14 as required
- Support for sPHENIX efforts as required

6/12/2014



Next Week

TECHNICAL SUPPORT NO-14

- Run 14 Continues
- Next scheduled access Monday 6/16?
 - Tasks?
- VTX/FVTX Shutdown work review meeting (Monday)
- Plan for 2014 Shutdown
- Tech Support for Run 14 as required
- Support for sPHENIX efforts as required

2014 planned Technical Support & 2014 Shutdown

TECHNICAL SUPPORT 2014

Support for run 14	2/3-6/30/2014
Procure & Fabricate parts for MPC-Ex North and South	1/1/2014-6/30/2014
Set up Physics lab for FVTX/VTX east	6/15/2014
End of Run Party	6/27/2014
MuID Efficiency Measurement (Itaru, requires cooling water & isobutane)	7/7-7/10/2014
Start of Shutdown Tasks (purge flammable gas, disassemble and stow shield wall, remove collars, move EC to AH, Move MMS south, etc.)	7/14 – 7/25/2014
Remove FVTX/VTX East to PHYSICS?, repair and reinstall	7/14 – 9/15/2014
Remove MMS east vertical lampshade	7/28-7/30/2014
Troubleshoot intermittent water leak in MMS	7/30- 8/8/2014
Other Maint. In MMS	TBD
Reinstall MMS east vertical lampshade	TBD
Summer Sunday prep AH, tours and restore AH	7/30-8/15/2014
Install scaffolding in Sta 1 South	7/28/2014
Remove MPC-Ex prototype	7/28-8/1/2014
MuTr Sta 1 South troubleshooting and repairs	7/28-8/1/2014
Maint. & Repairs for MPC South, BBC South, RPC1 South1	7/28-8/1/2014
Assemble & test MPC-Ex North, ready for installation	8/1-9/5/2014
Remove scaffolding from sta 1 south, Move CM South	8/4-8/5/2014
Install scaffolding in Sta 1 North	8/6-8/8/2014
MuTr Sta 1 & Sta. North troubleshooting and repairs	8/11-9/5/2014
Prep MPC-Ex North installation area	8/11-9/5/2014
Install new MPC-Ex North	9/8-9/26/2014
Assemble & test MPC-Ex South, ready for installation	9/2-10/3/2014

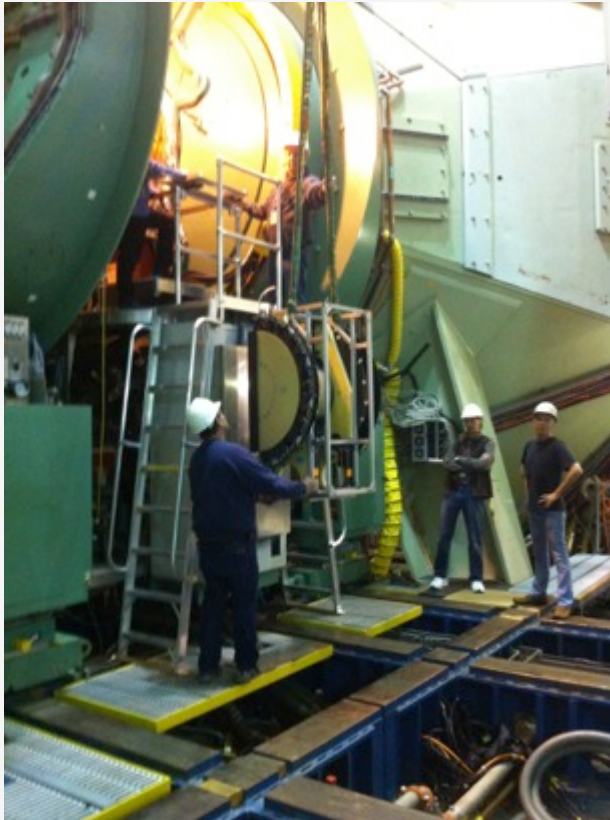
2014 planned Technical Support & 2014 Shutdown (cont'd)

TECHNICAL SUPPORT 2014

Remove Sta 1 N scaffolds, Move CM North, Install scaffolding in Sta 1 S	9/29-10/3/2014
Install MPC-Ex South	10/6-10/24/2014
Other detector support	TBD
Infrastructure Maintenance and Improvement	TBD
Decommissioning of obsolete PHENIX detector equipment	TBD
sPHENIX Support	on-going
End of Shutdown Tasks (Move MS north, roll in EC , install collars, remove 10 ton cart, plates and manlifts, build shield wall, etc.)	10/27-11/26/2014
Pink/White/Blue Sheets	12/1-12/19/2014
End of Shutdown Party	????
Start Flammable gas flow	????
Close shield wall, install radiation interlocks and prepare for run 14	12/31/2014
Start run 15	1/2/2015

Muon Tracker Shutdown Work List – summer 2014

- testing as MPC-EX installed, particularly before closing Sta-1's
- fix North Arcnet – N.2.7.1, North Sta-2 Oct-7 Chassis-1 (bad cable?)
- fix packets that were disabled for Run14
 - 11035,36 – South Sta-1 Quad-4 Chassis-3
 - 11267,68 – North Sta-2 Oct-7 Chassis-2
- replace boards for most frequent FEM problems from run
 - 11195 - North Sta-1 Quad-3 Chassis-3?
 - might have already done this; check history (changed RX 3/14/12)
 - 11064 – South Sta-2 Oct-3 Chassis-3 - unreachable
- N341 HV trip problem?
- auto-reboots of ArcNet and iocondev's for calibration?
- Access needed:
 - South & North Sta-1
 - Inside North Sta-2 on bottom
- Main Issue – Manpower



VTX/FVTX east repairs/upgrades required

West to remain installed

Need to get PHYSICS FVTX/VTX lab ready by ~ mid June

Meeting Monday 6/16 to discuss shutdown task details



6/12/2014

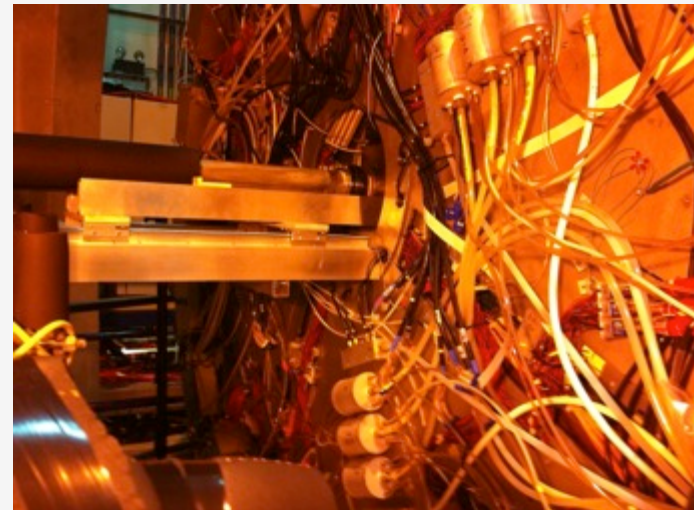
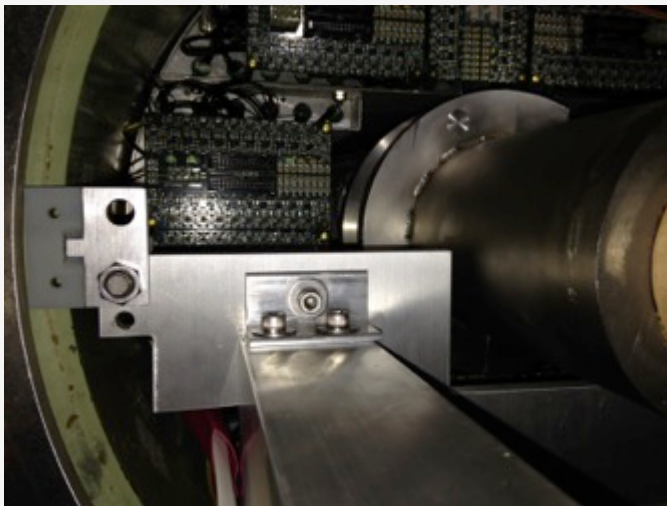
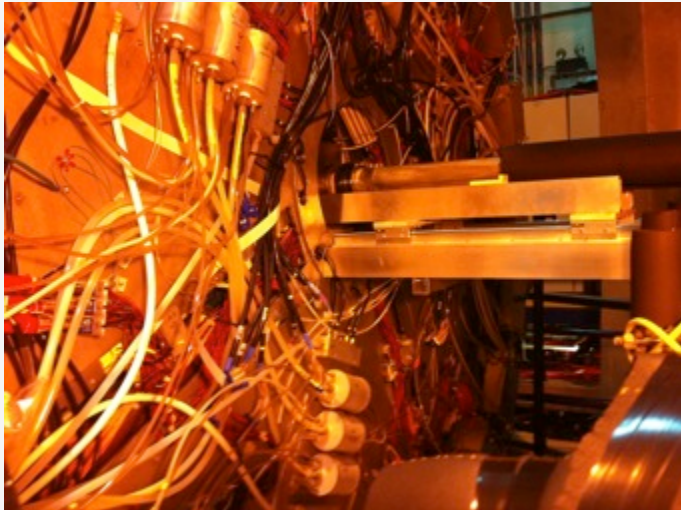
MPC-Ex N & S Final Installations This summer

Working on North BP support design

Tungsten plates received, QC acceptable

Additional parts ordered from CS due end of June

Rescheduling meeting yesterday to update shutdown schedule



6/12/2014

MPC-Ex Project Summary

(1) Stony Brook in charge of MPC-EX testing

(2) Tom Hemmick is leading a test beam effort at SLAC June 20-30th: one MPC-EX hemisphere with 8 tungsten layers and 4X and 4Y carrier boards one micromodule on each layer, partial assembly to be returned to BNL by July 7.

(3) Current Parts Dispositions:

Sent to Stony Brook for tests:

- 8 (4 x and 4 y) carrier boards laminated to "W" plates (new plates).
- 3 loose carrier boards for testing (one missing a connector)
- 50 brass spacer nuts
- 4 SS 1/4 - 20 x 4" studs
- 4 rapid prototyped spacers
- 1 micromodule

Mike Lenz office:

- 1 Assembly fixture
- 3 Delrin covers (in the shape of the "W" plates)
- 6 "W" plates (new plates)
- 50 brass spacer nuts

At Central shops (due 6/27/14):

- 5 mounting tabs
- 50 brass spacer nuts
- 20 FEM mounting brackets
- 20 FEM mount Isolation Boards

Jim LaBounty's office:

Installation assembly parts (to be itemized)

6/12/2014

(Additional parts in currently installed partial South prototype to be itemized)

MPC-Ex Schedule considerations, Cont'd

Current Parts Dispositions (cont'd):

Sensors

Sensor testing at Yonsei is proceeding well, and we should have the remaining 200+ sensors from Yonsei by the end of June. We already have almost all the sensors we need for the south MPC-EX.

Micromodules:

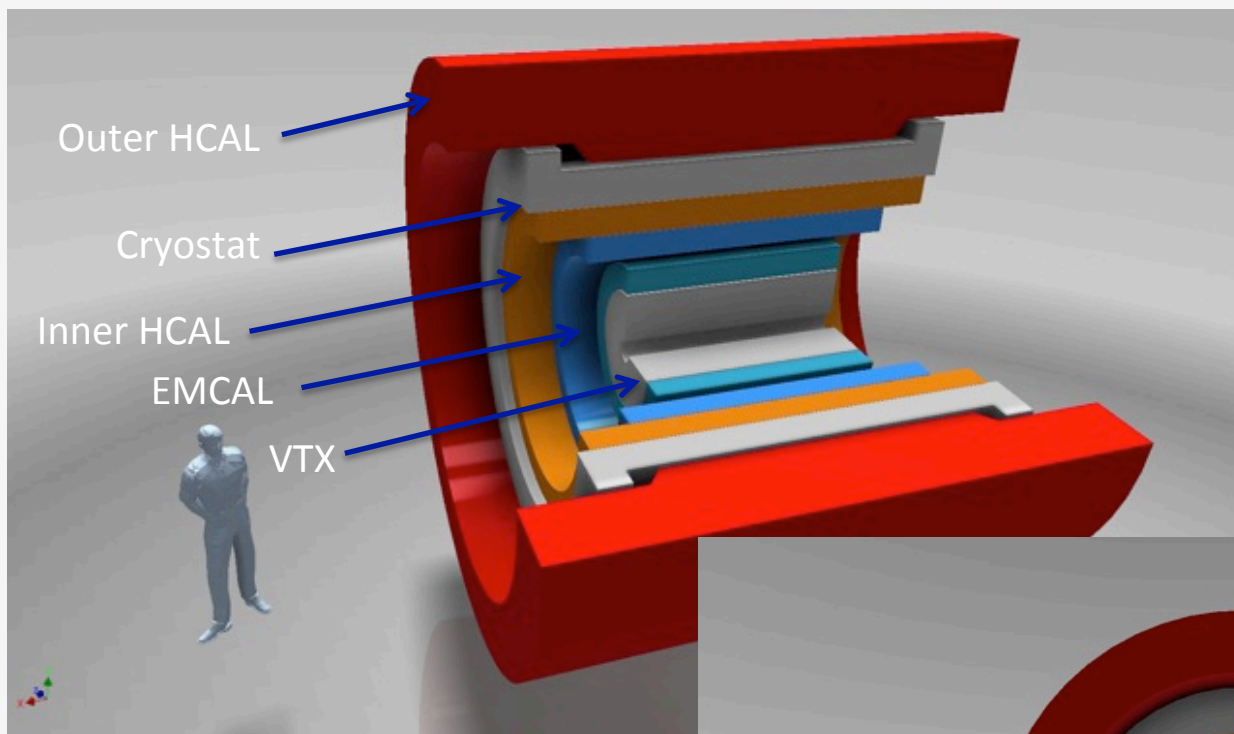
450 ROC's ordered:

- 100 received and used in building initial micromodules
- 100 in transit to BNL
- 250 rejected by Sierra (bad solder mask) and being remanufactured expect shipment in ~ 1 week

The electronics for the FEM is designed and at Sierra awaiting a BNL PO for manufacture and assembly. The FEMs have four readout inputs, so there will be eight FEMs per arm. two FEMs per box, four locations on the magnet for each arm.

(4) Assembly Plan

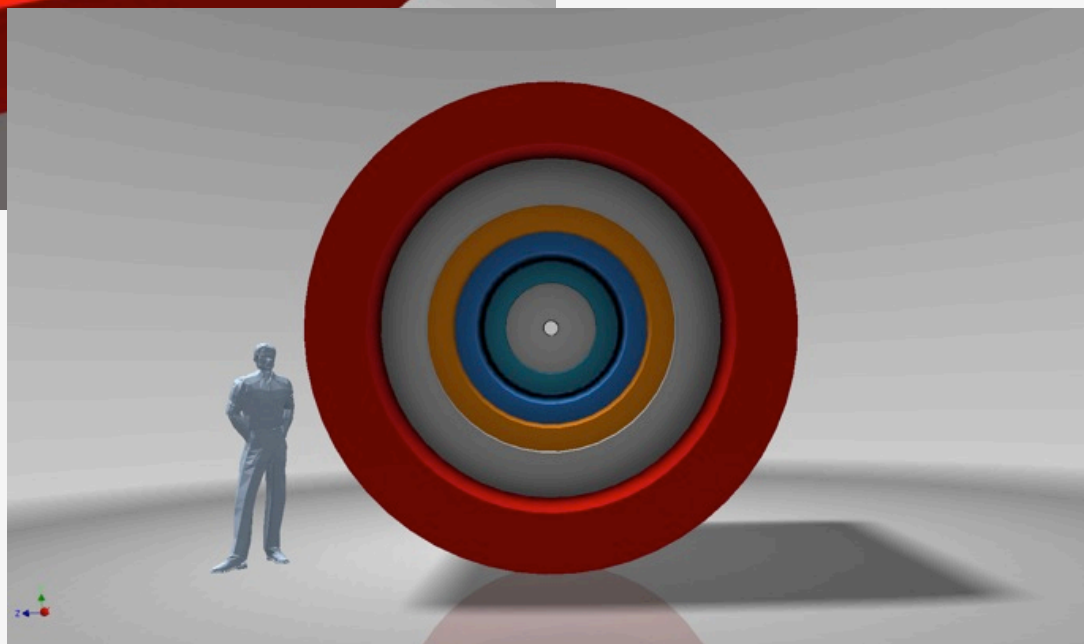
- After receipt at BNL, ROC's are inspected and sent to Quik Pak with SVX4 chips for wirebonding the chips to the ROC
- ROCs returned to BNL and inspected
- BNL wirebonds the sensors and assembles the micromodules
- Micromodules sent to Stony Brook for testing
- Final assembly into MPC-Ex N & S at Stony Brook, PHENIX tech to participate and assure QC
- Return assemblies to PHENIX for installation in accordance with current shutdown schedule



BNL Science Review of
sPHENIX This week

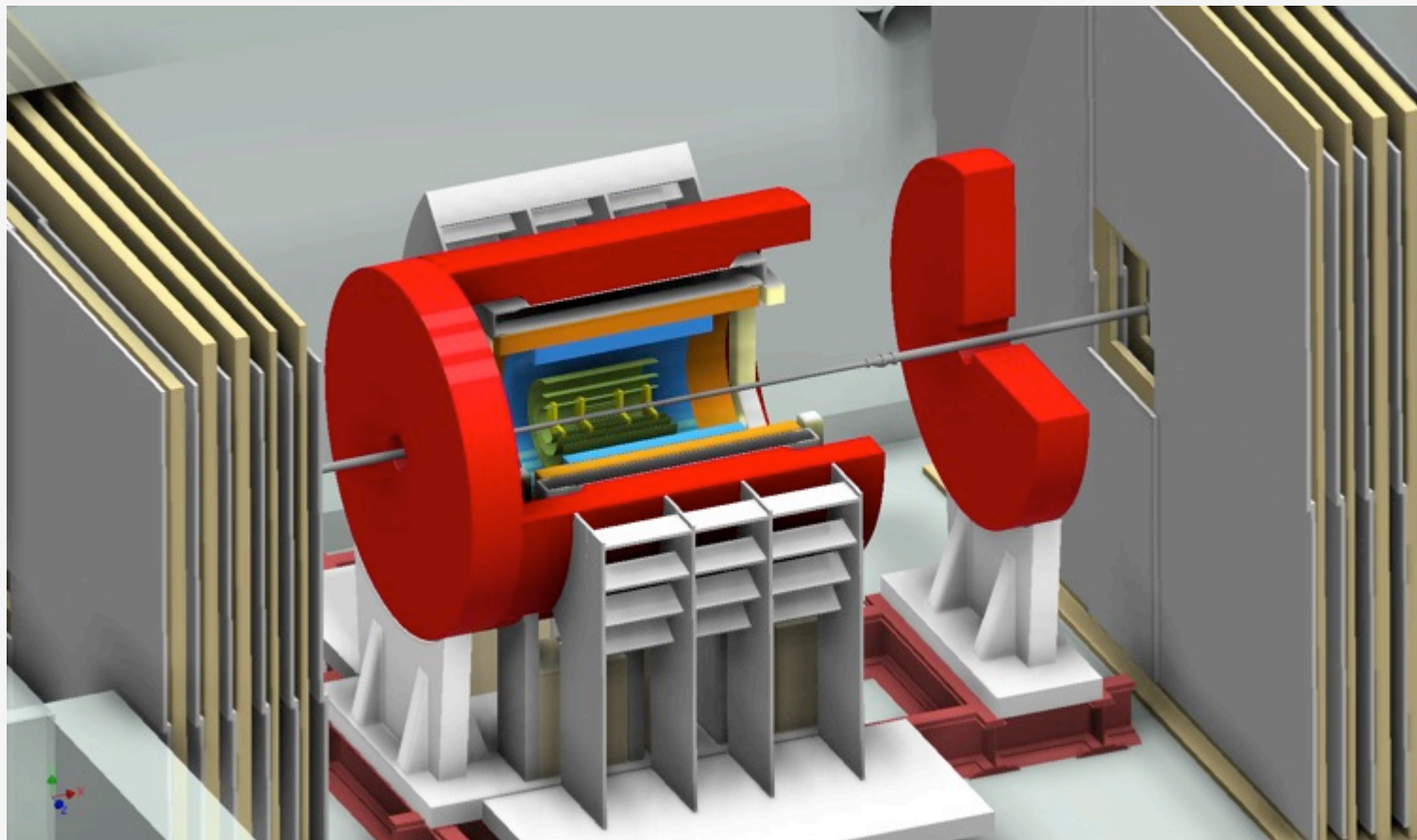
By all accounts was well
received

sPHENIX Engineering
meeting this morning



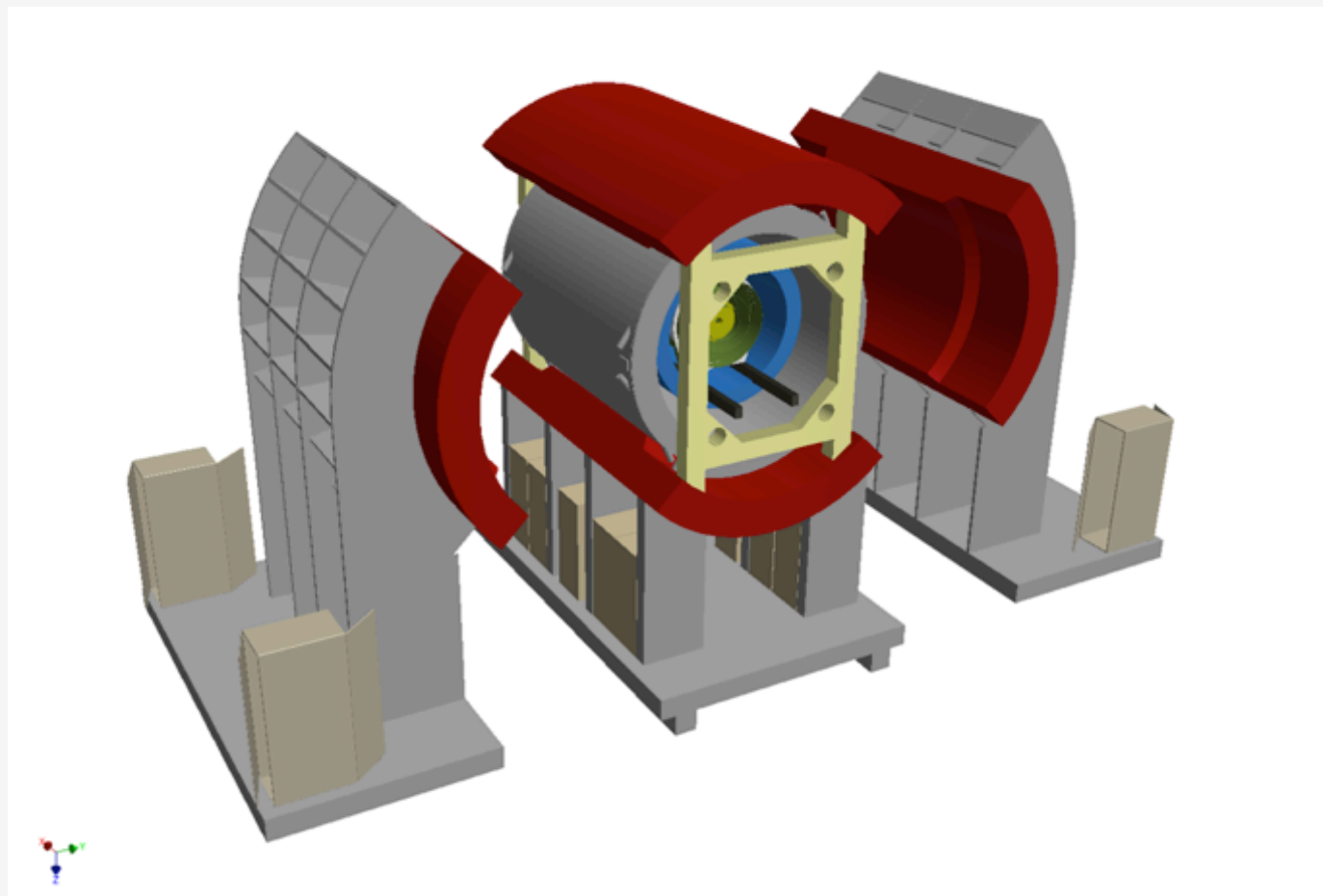
Design efforts over the next few months will include several areas of emphasis:

(a) incorporating a more detailed flux return (cap) design



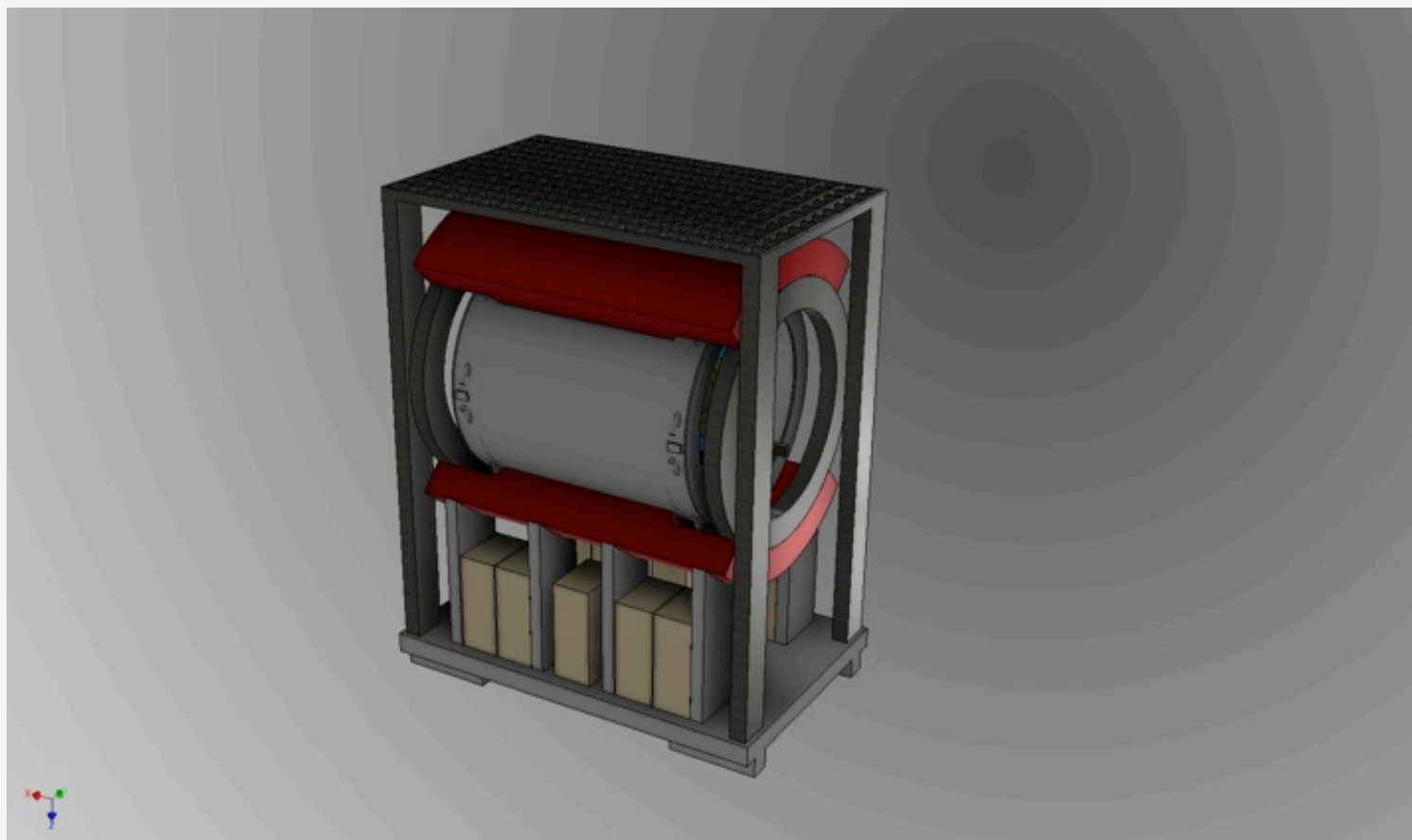
Basic sPHENIX model cutaway

(b) A more detailed structural support design, with support structure envelope details to be included in detector envelope

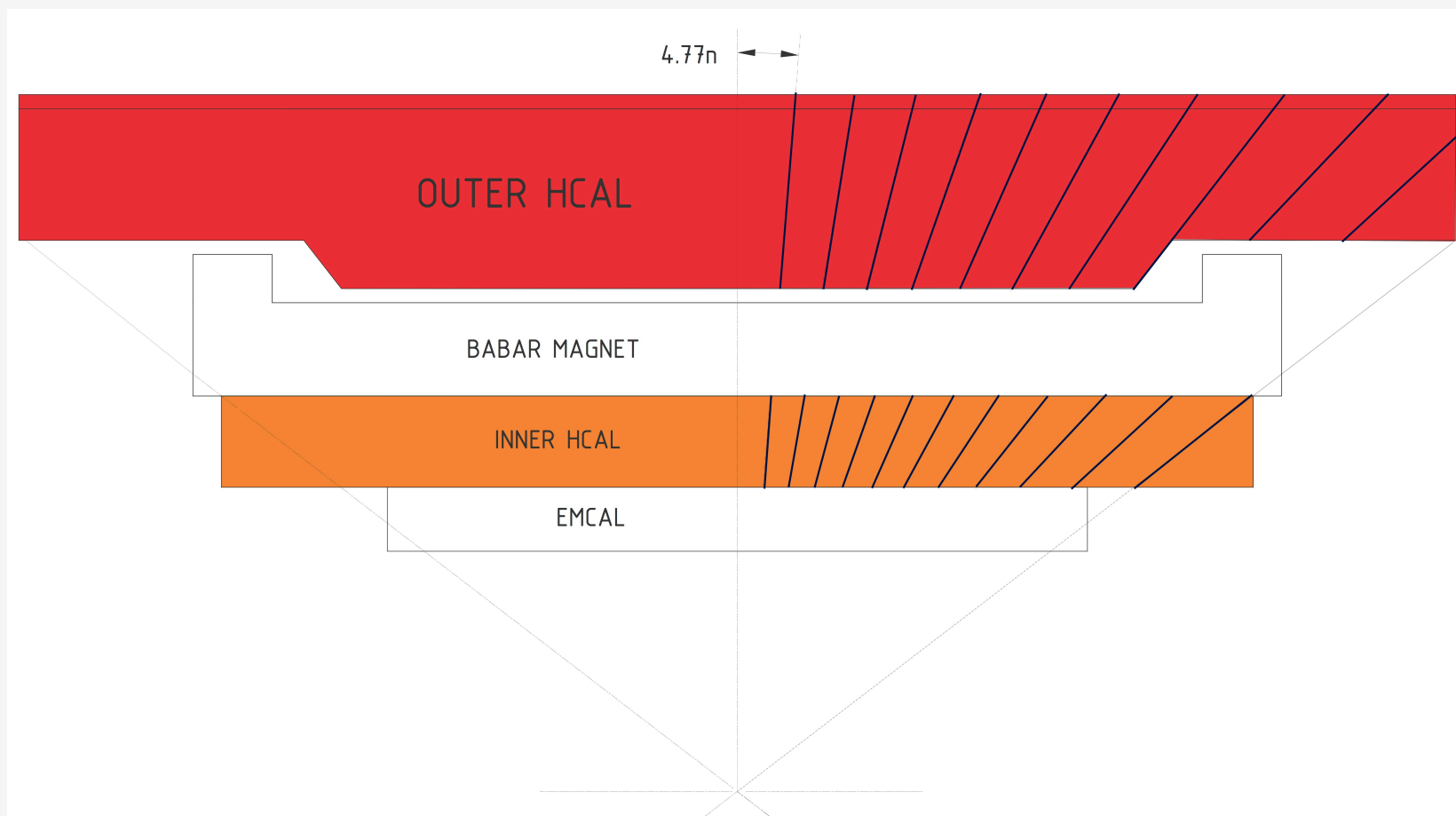


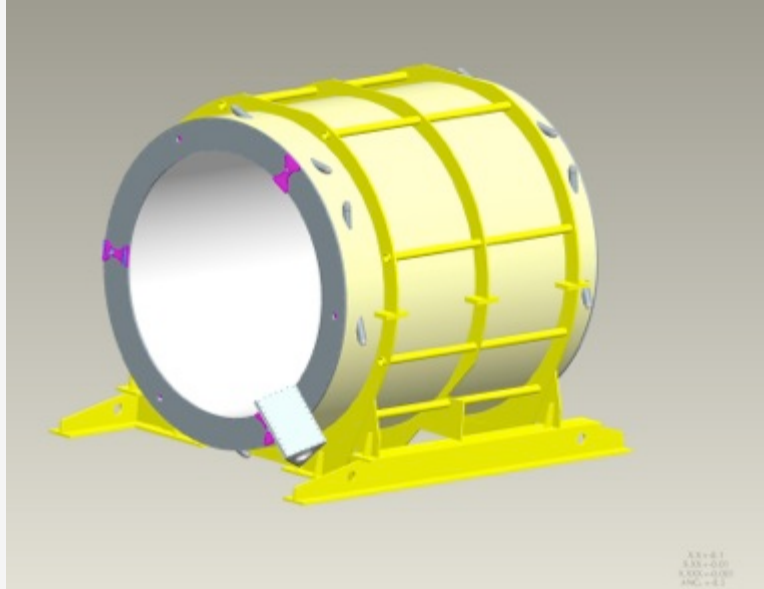
sPHENIX open, with racks

(c) Initial concept for external support, racks and upper bridge platform to be more detailed and conform to envelope restrictions



(d) "Innie" / "Bothie" tile configuration to be updated

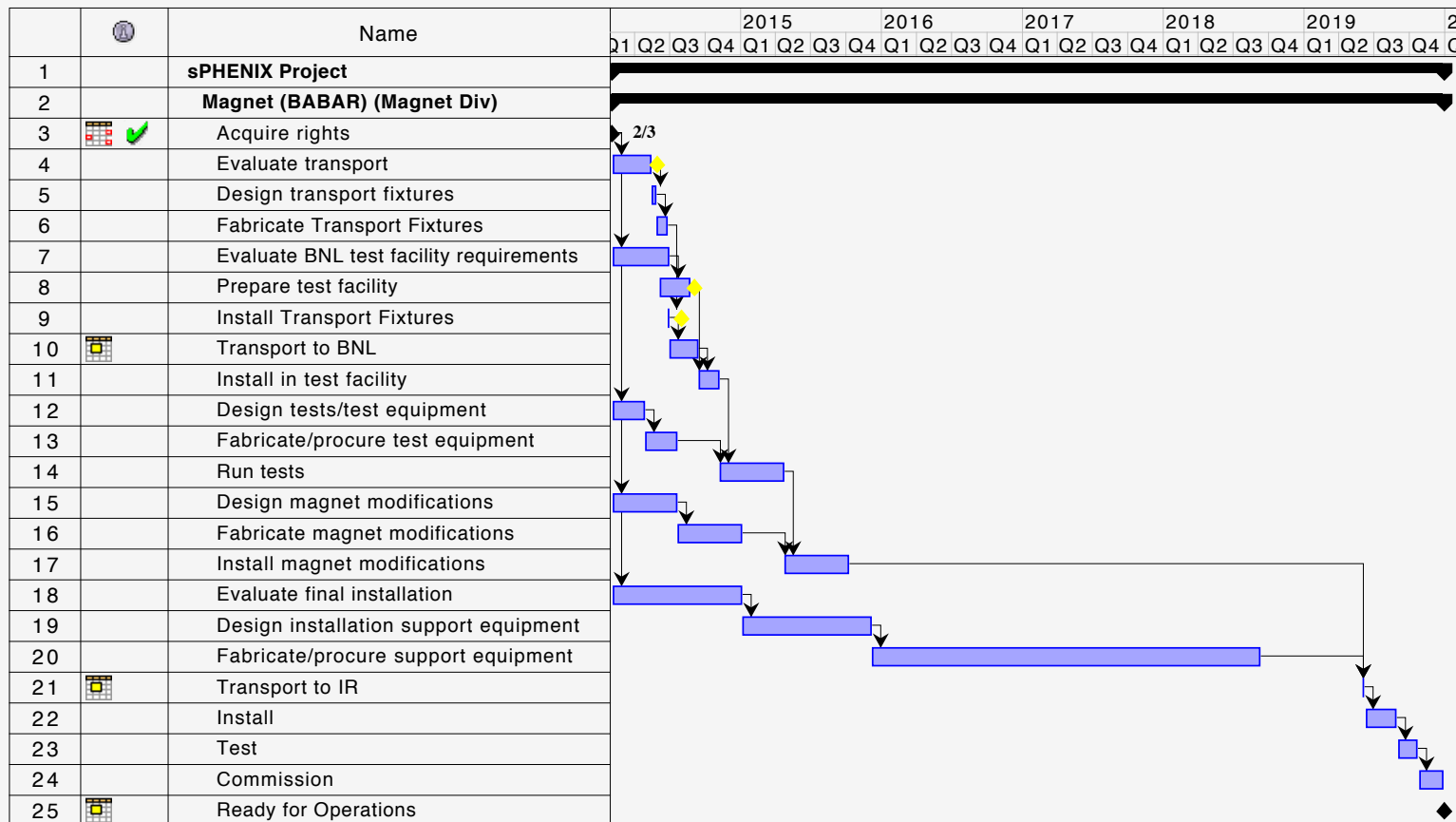




Magnet (BABAR) (Magnet Div)

- Acquire rights
Done
- Evaluate Transport
Done
- Design Transport fixtures
Done
- Fabricate Transport Fixtures
6/15/14
- Evaluate BNL test facility requirements
8/1/14
- Prepare test facility
9/1/14
- Install Transport fixtures
9/1/14
- Transport to BNL
9/15/14
- Install in test facility
10/1/14
- Design tests/test equipment
10/1/14
- Fabricate/procure test equipment
1/1/15
- Run tests
6/1/15
- Design Magnet modifications
12/1/14
- Fabricate magnet modifications
6/1/15
- Install magnet modifications
8/1/15
- Evaluate final installation
9/1/15
- Design installation support equipment
12/31/2015
- Fabricate/procure support equipment
7/1/2018
- Transport to IR
6/10/2019
- Install
8/30/2019
- Test
10/25/2019
- Commission
11/22/2019

6/12/2014
6/12/2014



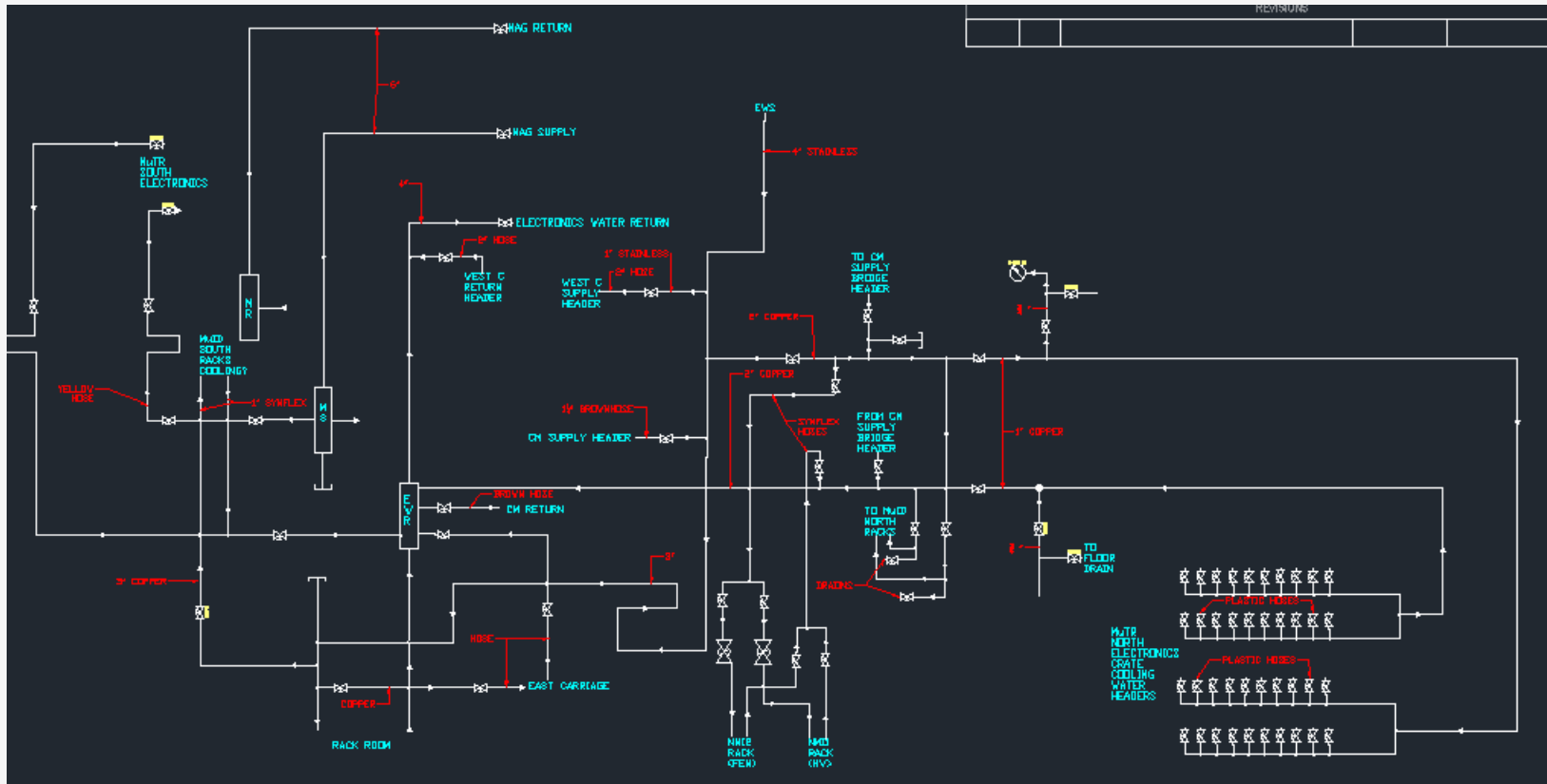
Babar Magnet Schedule: Mike Anarella

Infrastructure: NICK TULLY, SULI Student:

Working with Paul Giannotti to gather existing PHENIX infrastructure documentation, update and revise as appropriate, modify and augment for sPHENIX

PHENIX Decommissioning: MATT CHIULLI, SULI Student:

Working with Dave Phillips to gather existing PHENIX installation documentation including work permits and Procedures (active and inactive), list and categorize tools and fixtures, begin creating updated documentation to plan PHENIX decommissioning.



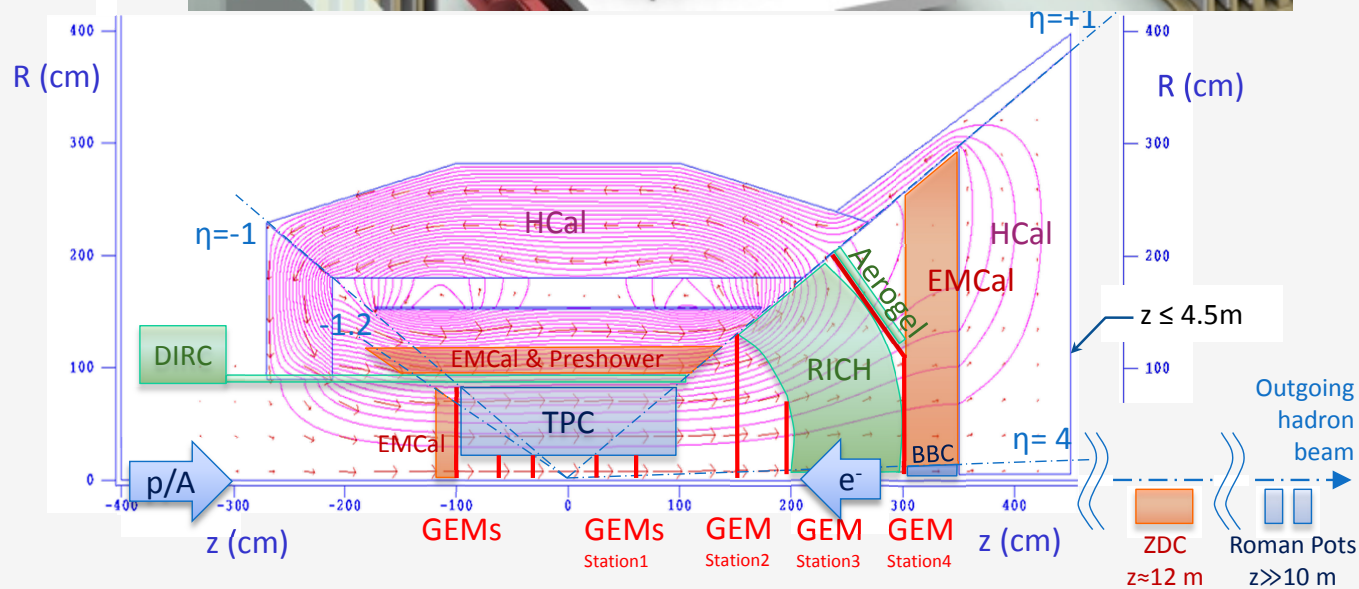
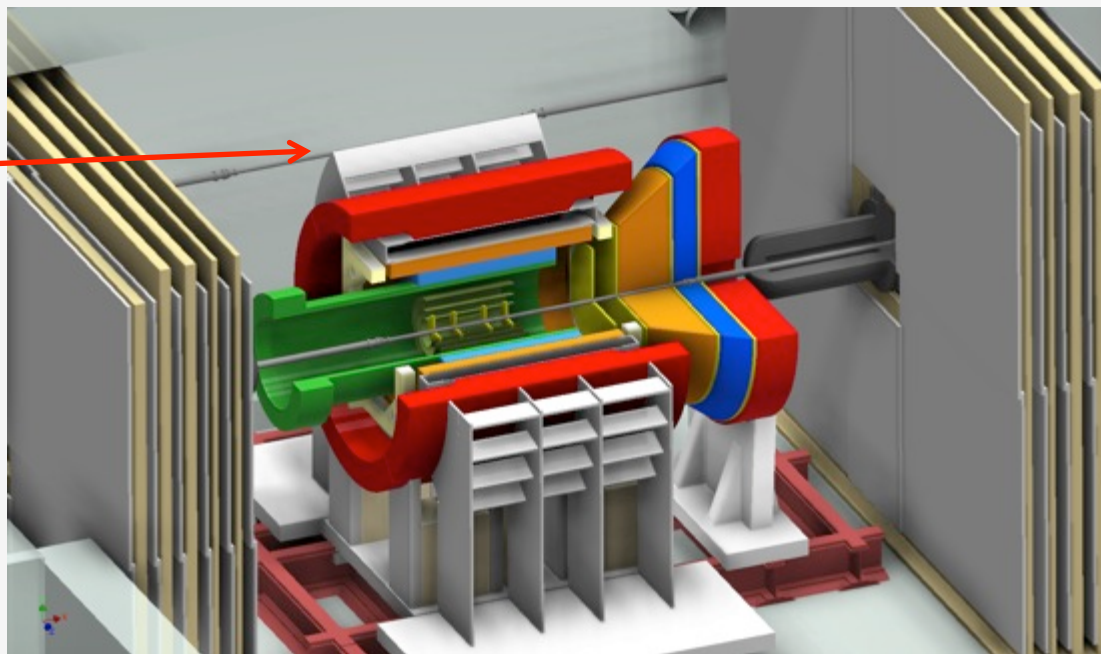
PHENIX COOLING WATER SCHEMATIC

Detectors	Procedures	Estimated Time of Disassembly	Work Permits	Drawings	Lifting Features & Equipment
Dish Chamber	Cut all wires and gas lines, move forward on rails, lift off with crane, lay flat on cart, dismantle, outside fins to take structural titanium, rest in dumpster.	4 Days, 8 CAD Tech Days	na-20002-005 (DC troubleshooting from extension ladder)(12/12/2002-4/12/2003) na-20002-006 (Replace regulator on DC/PC gas rack in missing house)(12/18/2002-12/18/2002) 2003-003155-2003-0029 (Dish Chamber Repair on LH Table)(1/11/2003-12/23/2003) na-2003-007 (Replace Dish Chamber power supplies)(1/18/2003-12/23/2003) 2004-0011504-11 (Troubleshoot & Repair DC Electronics)(2/17/2004-3/31/2004) 2004-006155-2004-075 (DC Power supply Repair)(5/25/2004-8/15/2004) 2004-008155-2004-107 (Elect DC Repair Tent)(5/23/2004-8/10/2004) 2005-001155-2005-054 (DC Repair)(2/14/2005-4/12/2005) 2005-003155-2005-030 (DC Cable Repair)(5/6/2005-6/25/2005) 2005-006155-2005-038 (DC Repair)(5/24/2005-8/10/2005) 07-00640RL-2007-006 (DC East & West repair)(2/9/2007-2/15/2007) 07-0240RL-2007-023 (DC East & West repair)(10/5/2007-12/13/2007) 08-00155-2008-113 (Tap into DC supply in a way to flow either 5050 Air/Ethane + Tricalohol)(12/22/2008-12/23/2008) DRL-2009-3 (DC Repair)(1/8/2009-2/4/2009) DRL-2009-15 (DC East Repair)(3/24/2009-10/12/2009) DRL-2009-18 (DC East, West Repair)(1/16/2009-12/16/2009) DRL-2010-19 (DC East & West Troubleshooting & Repair)(12/10/2010-1/11/2011) DRL-2011-003 (DC East & West Troubleshooting & Repair)(1/25/2011-3/12/2011) DRL-2011-020 (DC East & West Troubleshooting & Repair at the start of run 12)(1/14/2011-12/12/2011) DRL-2012-001 (DC East & West Troubleshooting & Repair prior to run 12)(1/17/2012-12/5/2012) DRL-2012-002155-2012-126 (DC East & West Troubleshooting & Repair during run 12)(2/8/2012-2/19/2012) DRL-2012-007 (DC Troubleshooting & Repair during run 12)(2/13/2012-3/19/2012) DRL-2012-011 (DC Troubleshooting & Repair during run 12)(3/15/2012-5/16/2012) DRL-2013-003 (DC troubleshooting & repair prior to run 13)(4/20/2013-3/28/2013) DRL-2013-004 (DC troubleshooting & repair during run 13)(3/19/2013-3/28/2013) DRL-2013-012155-2013-238 (DC East Window replacement)(10/20/2013-10/11/2013) DRL-2014-002 (DC East FEM Repair during run 10)(3/19/2014-na)	✓ (Carriage FAB Folders) (DC Cable Routing) (DC/PC Installation Procedure)	Slings (2) 20-ft, 6200-lb capacity in vertical configuration 40-Ton Assembly Hall Crane 10-Ton Collision Hall Crane 2 Chain Falls rated at or above 3000-Lb each
Pad Chamber 1/Pad Chamber 3	Remove PC-1 from the back of DC, throw in dumpster. Disconnect PC-3 by cutting all services, unbolt and slide out the bottom, toss in dumpster.	4 Days, 8 CAD Tech Days	na-20002-006 (Replace regulator on DC/PC gas rack in missing house)(12/18/2002-12/18/2002) 07-0110RL-2007-011 (PC Electronics Repair work permit)(5/23/2007-6/30/2007) DRL-2009-10 (PC Repair)(5/23/2009-9/24/2009) DRL-2010-11 (PC ENZ Troubleshooting)(12/10/2010-12/8/2010) DRL-2010-22 (PC ENZ East and West Troubleshooting & Repair)(1/20/2010-1/24/2010) DRL-2011-014 (PC Repair)(5/23/2011-12/15/2011)	✓ (PC-1 Cable Routing) (PC-3 Cable Routing) (PP-2 S.S. 4-06, TEC/PC3 Installation Procedure)	
Ring Imaging Chamber Detector	Cut service lines, unbolt RICH north and south, attach to crane at vessel's center of gravity, move to staging area, salvage all PHT modules, dispose of all remaining parts.	14 Days, 8 PHENIX Tech Days to strip out modules from RICH and dispose of remainder at staging area 14 Days, 8 CAD Tech Days Total = 8 days, 8 PHENIX Tech Days, 8 CAD Tech Days	30-006 (Rotate RICH Detector) 30-003 (Remove Top of Tent) 30-011 (Remove Gas Vessel and Transport) 30-012 (Replace transition plates & pivots on RICH Vessel) na-1939-005 (Welding repair leaks in RICH vessels)(8/19/1939-8/19/1939)	✓ (RICH Cable Routing) (RNL Website) (RICH Installation Procedure, PP-2 S.S. 4-0)	(2) Pivot Pins, P/N 002-0501-303 Spreaders Bar Chain Falls Doubled Slings Lifting Frame Swivel Shackles Load Cell Crane
Time Expansion Chamber	Unbolt, remove 1 sector at a time using crane, disassemble/out up into disposable chunks and discard in dumpster.	4 Days, 8 CAD Tech Days	06_0110RL-2006-005 (TEC Repair)(5/30/2006-10/15/2006)	✓ (TEC Cable Routing) (PP-2 S.S. 4-06, TEC/PC3 Installation Procedure)	30-Ton Lift Beam (1) S/N 32724, Model # 205-80-14 Swivel Eyes: 30-16 Swivel Eyes (4), 1000 lbs capacity 3/4-10 Swivel Eyes (2), 5000 lb capacity Slings: 3-Ton Capacity (2) TEC 2-Ton H/Wing fixture (1) S/N 02206, Model # 253-2-80, Test SE302099 Wire Rope Turnbuckle Assembly Drawing 002-0206-1018 (2) Chain Fall 3-Ton Capacity (2) 4"x4"x7' wood blocks (2)
Electromagnetic Calorimeter	Cut all service lines, Remove EM Cal Racks and toss in dumpster, Disconnect and remove all EM Cal modules and move to safe storage area.		na-1998-004 (Put EMCAL detector on truck)(8/31/1998-8/4/1998) 06_0120RL-2006-006 (EMCAL Repair)(6/30/2006-10/15/2006)		30-Ton EMCAL Lift Beam 2'6" long, 15-Ton Slings (2) M-24 Shoulder Eyes, 3-Ton Capacity (4) Swivel Eyes: 3-Ton Capacity (4) 2-Ton Capacity (4) Chainhoists: 5-Ton Capacity (2) 2-Ton Capacity (2) Slings: 5-Ton Capacity (2) 3-Ton Capacity (2) 2-Ton Capacity (3) Triangular attachment plates (2)
PbSC East PbGI	Disconnect from EM Cal and move to safe storage area. Disconnect from EM Cal and move to safe storage area.	10 Days, 10 PHENIX Tech Days, 10 CAD Tech Days	n/a n/a	✓ (PbSC East Cable Routing)	
Electronics Racks	Strip all unwanted electronics from racks, cut all wires, remove all inner components and dispose except for rack components and main power supplies. Keep racks. Unbolt and remove rack platforms to floor level for cut up. Cut up rack platforms into disposable segments and stack outside AH for vendor removal. Rotate carriage frame 30 degree to disassemble. Disassemble services and discard in dumpster. Disassemble/out carriage frame into disposable segments and stack outside of AH for vendor removal.	1 Day 1 PHENIX Tech Day to strip all racks, 1/4 Day 1/2 PHENIX Tech Day to remove from EC to AH floor, 1 Day 4 Rigger Days to move all EC racks to safe storage, 24 racks to be salvaged Total = 30 Days, 36 PHENIX Tech Days, 4 Rigger Days	PAG-2012-001 (Install Power Meter modules on the Rack Room East & West HVAC condensers)(8/22/2012-na) DRL-2011-002 (FEM Troubleshooting)(1/18/2011-2/12/2011) DRL-2014-002 (DC East FEM Repair during run 14)(3/11/2014-na)	✓ (East Carriage North Side, East Carriage South Side Cable Routing)	Railing to ensure the safety of the on-carriage work away from the building wall Man-Lit to hook up electronic racks to crane Equipment necessary to strip electronics
Deconstruct Carriage and dispose/recycle		20 days 40 CAD tech days 85 Days, 54 PHENIX Tech Days, 4 Rigger Days, 32 CAD Tech Days			
Total EC					

6/12/2014

2ft high x 1 ft wide
clearance needed
for e-ring
components

ePHENIX



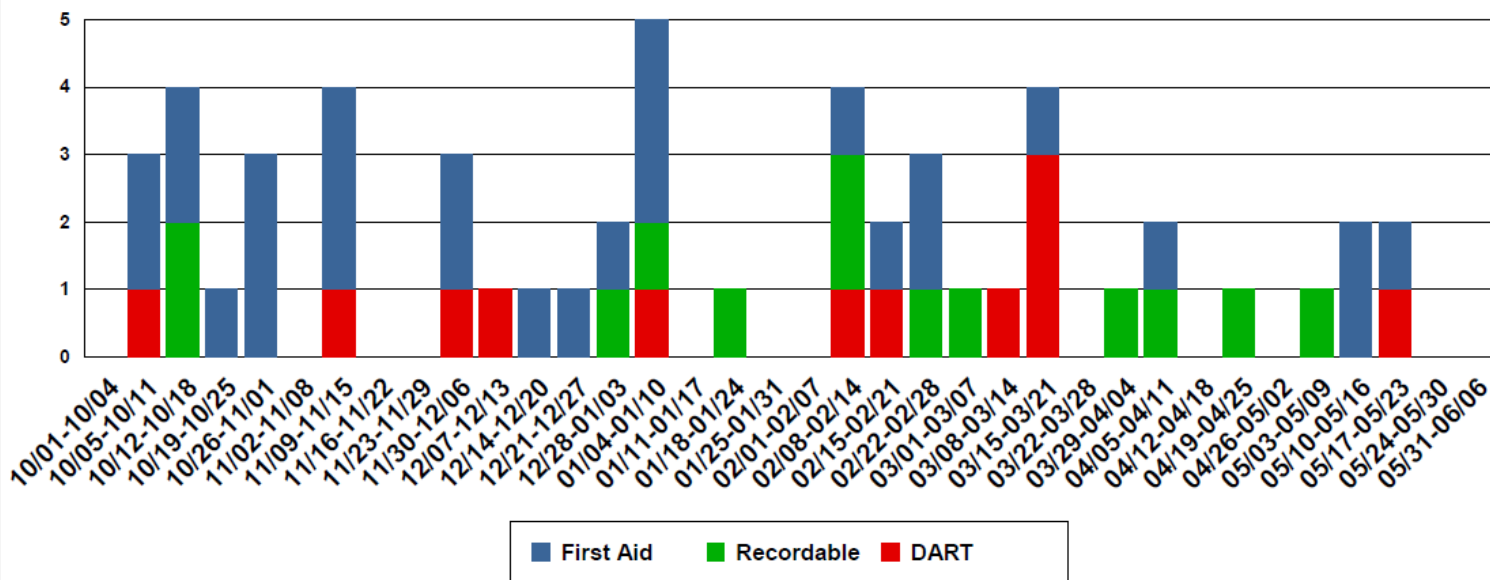
From Ron Gil (via Mike Lenz): New User Guide for Renovated Labs in Building 510:

A 13 page pdf document that covers the following topics:

- Authorized User Lists/Permits
- Chemical Storage
- Clean Room
- Compressed Air
- Custodial Services
- Electrical Outlets and Grounding Bus
- Emergency Power Off Buttons
- Eyewashes and Showers
- Fire Extinguishers, Fire Alarm Pull Boxes
- Fume and Snorkel Hoods, Passive Ventilation Emissions (PVE) and Exhaust Lines
- Gas Racks and Storage of Gas Cylinders
- Hazard Placards
- Internet/Phone Jacks
- Pipe Chases
- Storage Cabinets
- Other



Injuries Per Week (FY)
As of 6/6/2014



Injury Status:

FY14 YTD: DART – 12, TRC – 25, First Aid – 28

FY13: DART – 16, TRC – 38, First Aid – 53

FY12: DART – 19, TRC – 36, First Aid – 69

FY13 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seg/OccInj/BNLInjuries.aspx>

Recent Injuries

	None
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Recent Events

6/5/14	Non-Reportable	The exhaust hood ventilation system was found to be inoperable during a walkthrough of Building 480. The system was not in use at the time of occurrence. There was no adverse impact on facility operations. No Stop work order was issued. Cognizant personnel were informed of the inoperable ventilation system and instructed not to perform any operations that require exhaust hood ventilation until repairs are completed. (Event Link)
6/3/14	SC-BNL	A window fell out of its frame in Room U17 in Building 902. It hit a file cabinet and then fell to the floor, breaking the glass. The office occupant was at the desk when this event occurred and immediately called Facility & Operations for assistance. There were no injuries. The Complex supervisor was called, as well as a carpenter to secure the window opening for the evening. The scene of the event was secured and an investigation was initiated. (Event Link)
6/3/14	Non-Reportable	BNL Fire Rescue responded to a sprinkler activation alarm in Building 129. Upon arrival, they found a single fire sprinkler head activated in the ME 1-1 mechanical room. The responding firefighters immediately recognized the situation, isolated the system, and made the appropriate notifications. Based on a preliminary investigation, it appears that a unit heater failed to turn off (possibly due to a broken thermostat) and the room temperature climbed above the activation temperature of the sprinkler head, which then alarmed and triggered the Fire Rescue response. Water that was discharged from the sprinkler head migrated through the wall and onto the floor in the main ITD service area. The scene was turned over to the Facility Project Manager. (Event Link)

6/12/2014



24

Where To Find PHENIX Engineering Info

*Run 14 Continues!
Less than a month to go !*



http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm

6/12/2014



25

Why we wear Fall Protection PPE in manlifts